

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 April 2005 (07.04.2005)

PCT

(10) International Publication Number
WO 2005/030739 A1

(51) International Patent Classification⁷: C07D 263/58

PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(21) International Application Number:
PCT/EP2004/052382

(22) International Filing Date:
30 September 2004 (30.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

(30) Priority Data:
03103630.4 30 September 2003 (30.09.2003) EP
60/507,996 2 October 2003 (02.10.2003) US

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii)) for the following designations AE,
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM,
ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA,
SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE,
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the
earlier application (Rule 4.17(iii)) for all designations
- of inventorship (Rule 4.17(iv)) for US only

(71) Applicant (for all designated States except US): TI-
BOTEC PHARMACEUTICALS LTD. [TE/TE]; Little
Island, Co Cork (IE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): DE KOCK,
Herman Augustinus [BE/BE]; Wolfseind 10, B-2370
Arendonk (BE). FILLIERS, Walter Ferdinand Maria
[BE/BE]; Lindelei 25, B-2531 Vremde (BE). AELTER-
MAN, Wim Albert Alex [BE/BE]; Oude Lillebaan 7,
B-2275 Gierle (BE).

(74) Agent: DAELEMANS, Frank; Tibotec-Virco Comm.
VA, Generaal De Wittelaan L 11B 3, B-2800 Mechelen
(BE).

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,

(54) Title: METHODS FOR THE PREPARATION OF BENZOXAZOLE SULFONAMIDE COMPOUNDS AND INTERMEDI-
ATES THEREOF

(57) Abstract: The present invention relates to methods for the preparation of benzoxazole sulfonamide compounds of formula (9)
as well as novel intermediates of formula (6) for use in said method. More in particular the invention relates to methods for the
Preparation of 2-amino-benzoxazole sulfonamide compounds which make use of 2-mercapto-benzoxazole sulfonamide intermedi-
ates, more in particular methods employing the intermediate 1-Benzyl-2-hydroxy-3-[isobutyl(2-methylsulfanyl-benzoxazole-6-sul-
fonyl)-amino]-propyl)-carbamic ester, and to methods amenable to industrial scaling up. Said benzoxazole sulfonamide compounds
are particularly useful as HIV protease inhibitors. The substituents are defined in the claims.